UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 12 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Rabon Dog Collar ChE Study

TO: Mr. George LaRocca, PM 15
Registration Division (TS-767)

FROM: Byron T. Backus
Toxicologist
Toxicology Branch

THROUGH: Clint Skinner, Ph.D.
Head, Section III
and
Theodore Farber, Ph.D.
Chief, Toxicology Branch
Hazard Evaluation Division (TS-769)

Chemical no. 217A

Project no. 193

Action Requested:

Review of a proposed protocol for a dog collar cholinesterase study.

Comments and Conclusions:

1. The registrant has proposed that there be 2 groups of bitches, one group fitted with placebo collars, the other with 2 Rabon-containing collars on each dog. This should be modified so that there at least 3 groups, including controls, a group representing normal use exposure (each bitch fitted with one collar), and a group in which there is overexposure, with each bitch fitted with something like 3 collars. There should be at least 6 bitches/group. We prefer that each of the bitches used should have successfully raised a litter on a previous occasion; but if this is not possible then "inexperienced" dogs should be assigned evenly throughout the groups, and such dogs should be indicated in the reporting.

2. Any "trimming" (in terms of weight removed) of the collars, as well as replacement by new collars, should be recorded and reported.

3. The cholinesterase measurements should include (separately) RBC and plasma activities. Blood samples should be taken from all dogs on the same day and within a reasonably short period of time. It is recommended that blood samples always be taken at the same time of day, and that there be a consistent routine in their storage and processing.

4. Our preference is for cholinesterase measurements to be made using the Ellman colorimetric (as opposed to the Michel change in pH) method. We have been favorably impressed by a number of studies which have utilized the reagent kit sold by Boehringer Mannheim Diagnostics.

5. The time frames for the study (as given in tables I and II in the proposed protocol received June 4, 1985) are acceptable. However, in addition to cholinesterase measurements made while adults and puppies are wearing collars, there should be an additional set of measurements made from each of these animals 2 weeks after the collars are removed.